

A NEW SPECIES OF *PHERBELLIA* FROM NORTH AMERICA  
WITH RANGE EXTENSIONS FOR *P. HACKMANI* AND  
*P. GRISEICOLLIS* (DIPTERA: SCIOMYZIDAE)

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**Abstract.**—*Pherbellia fisheri* is described from Northwest Territories, Canada. New distributional information is recorded for *P. griseicollis* (Becker) and *P. hackmani* Rozkošný is reported for the first time from North America. The male genitalia of all three species are illustrated and maps of the North American distribution records are given.

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In America north of Mexico the genus *Pherbellia* consists of 41 species including the new species described here, and *P. hackmani* Rozkošný, recorded here from North America for the first time. Not among the above 41 species is *P. fusca* (Cresson), which recently has been considered a nomen dubium (Knutson et al., 1986).

This study (1) recognizes *Pherbellia fisheri*, new species, (2) extends the known distribution of *P. hackmani*, described from Europe, to North America, (3) expands the known distribution of *P. griseicollis* (Becker) in North America, (4) provides illustrations of the terminalia of the above three species, and (5) maps the localities in North America where the species have been recorded.

Seven North American species including one subspecies of *Pherbellia* are now known to be Holarctic: *P. albocostata* (Fallén), *P. argyra* Verbeke, *P. griseicollis*, *P. griseola* (Fallén), *P. hackmani*, *P. nana nana* (Fallén), and *P. obscura* Ringdahl. In the Palearctic, these seven species have essentially a Fennoscandian distribution; some of them extend into other parts of Europe, and to North Africa, Soviet Central Asia, Siberia and China.

Several attempts have been made to sep-

arate the genus *Pherbellia* into subgenera. The most recent division was by Rozkošný (1964). The species discussed herein are in the subgenus *Chetocera* Robineau-Desvoidy, as defined by Rozkošný. Rozkošný (1984) further alludes to a *P. griseicollis* group in which he listed *P. griseicollis* and *P. sordida* (Hendel). *Pherbellia fisheri* is a member of that group and perhaps *P. hackmani* may also belong there. Furthermore, the *Pherbellia fuscipes* group (species with a row of hairs on the posterior margin of the anepisternum, as designated by Steyskal (1961), belongs to *Chetocera*, as defined by Rozkošný (1964).

*Pherbellia fisheri*, *P. griseicollis*, *P. hackmani* and *P. sordida* share the following combination of characters:

1. Midfrontal stripe less than  $\frac{1}{2}$  distance from anterior ocellus to frontal margin.
2. Two fronto-orbital bristles.
3. Wing not patterned.
4. First vein surpassing level of anterior crossvein.
5. Anepisternum bare.
6. Anepimeron with 2 (rarely 3) large bristles and several fine setae.
7. Katepisternum with only fine setae dorsally.

*Pherbellia fisheri* Orth, NEW SPECIES

Figs. 1-3, 8

Holotype male.—Height of head  $\frac{2}{3}$  width. Medifacies yellowish, pruinose; facial grooves subshiny; parafacies and cheeks pruinose, pale yellow. Frons testaceous, yellowish anteriorly. Midfrontal stripe extending less than  $\frac{1}{2}$  distance from anterior ocellus to frontal margin. Ocellar triangle and orbital plates tannish grey, tomentose. Orbital plates tapered anteriorly, extending beyond midfrontal stripe. Orbito-antennal spot lacking; narrow white tomentose stripe along upper orbital margin. Two pairs fronto-orbital bristles; anterior bristle approximately  $\frac{2}{3}$  as long as posterior bristle; ocellars, post-ocellars, and inner and outer verticals well developed. Occiput tannish grey, tomentose. Short black setae on lower  $\frac{2}{3}$  of cheeks, on anterior  $\frac{1}{2}$  of frons, between ocellar and postocellar bristles, on orbital plates, and in mid-cervical patch. Lateral occipital margins with somewhat stronger setae and bristles. Antenna testaceous; arisal hairs approximately as long as width of first segment of arista.

Thorax greyish brown, tomentose, slightly mottled, with 4 indistinct brown longitudinal stripes.

Pleura tannish grey, tomentose. Anepisternum bare, with upper posterior surface more brownish. Anepimeron with cluster of small bristles and 2 much longer, stronger bristles situated mid-anteriorly. Katepisternum with fine setae over much of surface and well-developed setae ventrally. Prosternum bare.

Coxae greyish white, tomentose. Forefemur brownish, infumated. Mid- and hindlegs tawny, slightly infumated; hindfemur slightly darkened distally. Tarsal segments tawny except brown 4th and 5th segments on fore- and midlegs.

Wing length 4.2 mm. Membrane greyish yellow, hyaline, costal margin and veins brownish yellow, area around crossveins clouded. No stump veins; first vein surpassing level of anterior crossvein; anal vein

reaching wing margin. Halter, squama, and squamal cilia pale yellow.

Abdominal segments greyish brown, slightly infumated dorsally; terminalia as in Figs. 2 and 3.

Allotype female.—Similar to holotype except for reproductive structures. Wing length 5.0 mm.

Diagnosis.—Among *Pherbellia* species, *P. fisheri* appears to be most closely related to *P. griseicollis* and *P. sordida*. Identification should be made by examining male terminalia and using the locality maps. *Pherbellia fisheri* is set apart from both species by the smaller, less deeply emarginated ventral posterior lobe on the anterior surstylus (for illustrations of *P. sordida* see Rozkošný (1984)).

Holotype.—♂, CANADA, Northwest Territories, Aklavik, July 27, 1931, O. Bryant, Lot 234. Deposited in United States National Museum of Natural History.

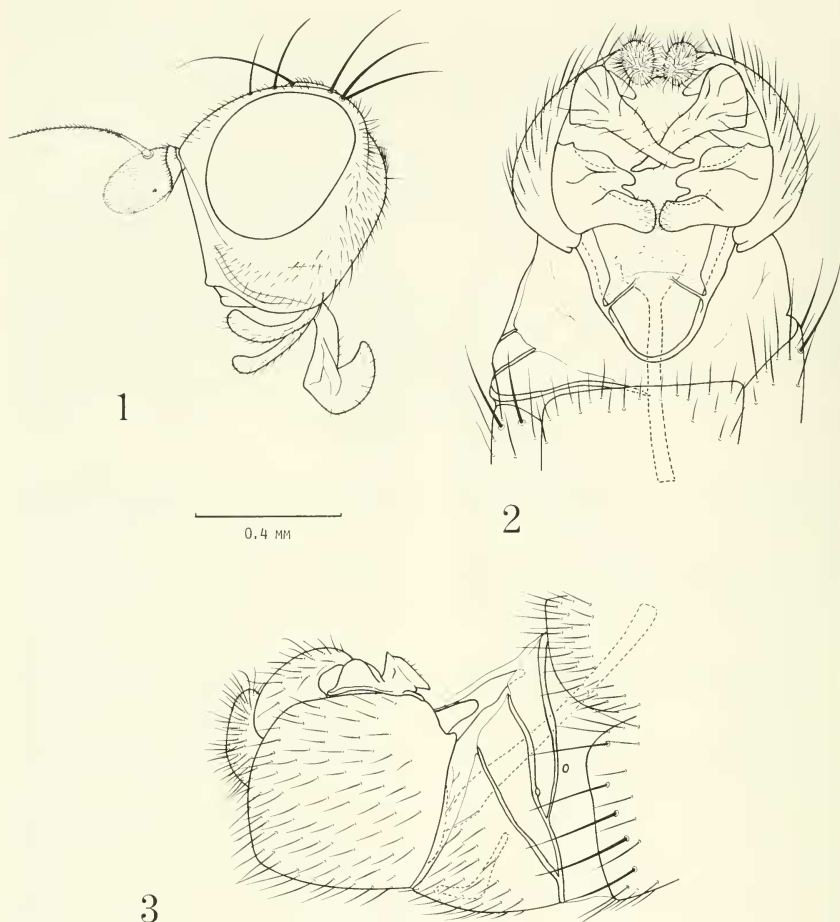
Allotype.—♀, same data as holotype except, July 27, 1932, Lot 306. Deposited with holotype.

Paratypes.—CANADA. *Alberta*: Banff, July 19, 1915 (1 ♀), N. B. Sansome, May 25, 1922 (1 ♀, 3 ♂), May 26, 1922 (2 ♀), June 1, 1922 (1 ♂), June 21, 1922 (1 ♀), C. B. D. Garrett; Lancaster Park, July 28, 1963 (1 ♂), J. R. Vockeroth; Waterton Lakes National Park, July 7-12, 1980 (1 ♂), H. J. Teskey. *Manitoba*: Churchill, June 25, 1930 (1 ♂), collector ? *Northwest Territories*: Aklavik, Sept. 12, 1930 (1 ♂) Lot 142, Sept. 18, 1930 (1 ♀) Lot 153, O. Bryant; USA. *Alaska*: Umiat, July 3, 1959 (1 ♀, 1 ♂), July 7, 1959 (3 ♀, 3 ♂), J. E. H. Martin.

Etymology.—I take pleasure in naming this species in honor of T. W. Fisher, whom I have enjoyed working with for many years.

Distribution.—This boreal species is known from widely separated areas in Alaska and Canada. The northernmost collecting site is Umiat, Alaska, 69°25', and the southernmost is Waterton Lakes National Park, Alberta, 49°06'.

Discussion.—The illustrations of the ter-



Figs. 1-3. *Pherbellia fisheri*, new species. 1, Head, holotype male. 2, Terminalia, ventral view, paratype male. 3, Terminalia, sinistral view, inverted, paratype male.

minalia of Palaearctic *Pherbellia sordida* by Rozkošný (1984) resemble *P. fisheri*. A specimen of *P. sordida* collected in Wustung, Poland, by O. Duda, May 24, 1921, was borrowed from R. Rozkošný, J. E. Purkyne University, Brno, Czechoslovakia, for examination. Comparison of the terminalia of *P. sordida* with *P. fisheri* revealed them to be distinct.

*Pherbellia fisheri* was independently recognized as undescribed by L. Knutson several years ago. Upon receipt of my manuscript for review he informed me of his findings and suggested that I proceed with its description. He also provided most of the specimens used in this paper. I gratefully acknowledge his contribution.

The northernmost collection sites of *P.*

*fisheri* (Umiat, Alaska, and Aklavik, Northwest Territories) lead one to speculate that, as with other similarly distributed species, *P. fisheri* may also occur in Fennoscandia. Closer study of material labeled *P. griseicollis* from northern Europe may reveal the presence of the new species there.

*Pherbellia griseicollis* (Becker)

Figs. 4, 6, 8

Externally, *Pherbellia griseicollis* and *P. fisheri* are so similar that I cannot separate them with a great degree of confidence. In general, the dorsum is greyer and the legs are slightly darker than *P. fisheri*.

Distribution.—In the Palearctic *P. griseicollis* is known to occur in Fennoscandia, the Murmansk region, the Karelian ASSR of the USSR, and in Western Siberia (Rozkošný, 1984). Prior to this study, *P. griseicollis* was known only from Prudhoe Bay, Alaska, in North America (Knutson et al., 1986). It is now known to be rather widespread with the southern limit of its distribution near Lima, Montana, approximately 45°N latitude.

Collection records.—**CANADA.** *Alberta:* Banff, July 25, 1924 (1 ♂), E. Hearle; Banff National Park, June 4, 1955 (1 ♀), June 9, 1955 (1 ♀), G. E. Shewell, July 9, 1955 (2 ♀), J. R. McGillis. *British Columbia:* Buckinghorse Provincial Campground, Alaska Hwy. DC-175 (281.6 km), June 27, 1978 (1 ♂), P. H. Arnaud, Jr.; Lac le Jeune, June 25, 1973 (2 ♀), June 27, 1973 (1 ♀, 1 ♂), H. J. Teskey. *Manitoba:* Warkworth Creek, nr. Churchill, June 10, 1952 (1 ♂), G. E. Shewell. *Northwest Territories:* Aklavik, June 7, 1931 (1 ♂), July 25, 1931 (1 ♂), O. Bryant; Yellow Knife, Kam Lake, June 20, 1966 (1 ♂), G. E. Shewell; 21 mi E of Tuktoyaktuk, June 17, 1971 (1 ♀), June 21–25, 1971 (1 ♂), 8–12 July, 1971 (1 ♀), 17–21 July, 1971 (2 ♀), 20–25 July, 1971 (1 ♀, 1 ♂), D. M. Wood. *Yukon:* Herschel Island, 24–28 July, 1971 (1 ♀, 1 ♂), D. M. Wood. **USA.** *Alaska:* Circle, July 26, 1971 (1 ♂), B. A. Foote; N. Coast, Prudhoe Bay, June 8, 1971 (1 ♀), June 16,

1971 (1 ♂), June 20, 1971 (1 ♂), July 4, 1971 (1 ♀, 1 ♂), M. Deyrup; Umiat, Aug. 7, 1959 (1 ♂), R. Madge. *Idaho:* Idaho Co., Lolo Pass, June 18, 1965 (1 ♂), R. L. Westcott. *Montana:* Beaverhead Co., 9 mi S of Lima, June 26, 1966 (1 ♂), B. A. Foote.

*Pherbellia hackmani* Rozkošný

Figs. 5, 7, 8

Externally, *P. hackmani* is set apart from *P. fisheri*, *P. griseicollis* and *P. sordida* by a more intense clouding of the membrane bordering the anterior and posterior cross-veins and a yellowish brown gross aspect. The male terminalia are as in Figs. 5 and 7. The anterior surstyli are similar to *P. argyra* Verbeke (see Fisher and Orth, 1983).

Distribution.—In the Palearctic this species is known only from the type series (Rozkošný, 1984). The holotype male was collected at Mukkavuoma, Torne Lappmark, Sweden. There are ten additional paratypes from Sweden, Finland, and western Siberia.

This study presents the first records of *Pherbelli hackmani* in North America. It is a boreal species, and has been recorded south of 60°N latitude only at King Salmon, Alaska (58°40'N, 156°40'W).

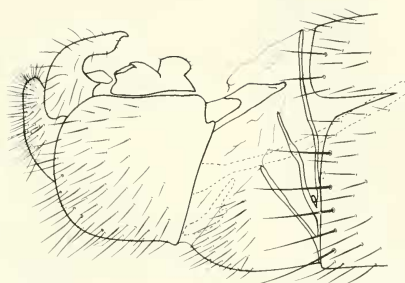
Collection records.—**CANADA.** *Northwest Territories:* Aklavik, June 15, 1930 (1 ♀, 1 ♂), O. Bryant; 21 mi E of Tuktoyaktuk, July 17–21, 1971 (1 ♂), D. M. Wood; Tununuk, Aug. 15, 1930 (1 ♀, 1 ♂), O. Bryant. *Yukon:* Dickson Lake, Mt. Mye, 133°08'–62°21', 5000 ft., June 14, 1960 (1 ♀), J. E. H. Martin; Firth River, Aug. 3, 1956 (2 ♀), R. E. Leech; Herschel Is., July 22, 1953 (1 ♂), J. S. Waterhouse, (1 ♀), C. D. Bird; North Fork Pass, Ogilvie Mts., 4100 ft., June 11, 1962 (1 ♂), June 12, 1962 (1 ♀), June 20, 1962 (1 ♂), R. E. Leech, June 18, 1962 (1 ♀), July 1, 1962 (1 ♀), P. J. Skitsko. **USA.** *Alaska:* Cape Thompson, June 10, 1960 (sex ?), W. C. Hanson; Cape Thompson, Crowbill Mountain, June 6, 1960 (1 ♂), W. C. Hanson; Gulkana, Paxon Lodge, Aug. 4, 1951 (2 ♀, 1 ♂), W. R. M. Mason; Isabella Pass, Mi. 206 Richardson Highway, 2900



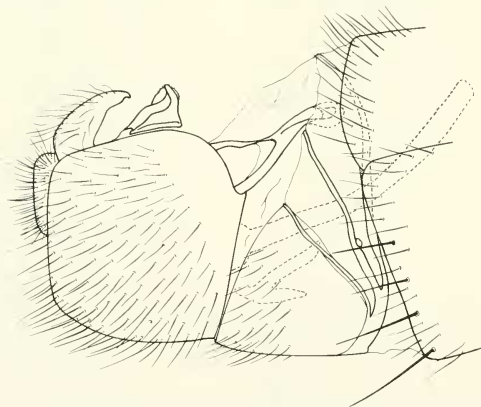
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6



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Figs. 4-7. 4, 6, *Pherbellia griseicollis*, male, 21 mi E of Tuktoyaktuk, Northwest Territories. 4, Terminalia, ventral view. 6, Terminalia, sinistral view, inverted. 5, 7, *Pherbellia hackmani*, male, Summit Lake, Isabella Pass, Alaska. 5, Terminalia, ventral view. 7, Terminalia, sinistral view, inverted.



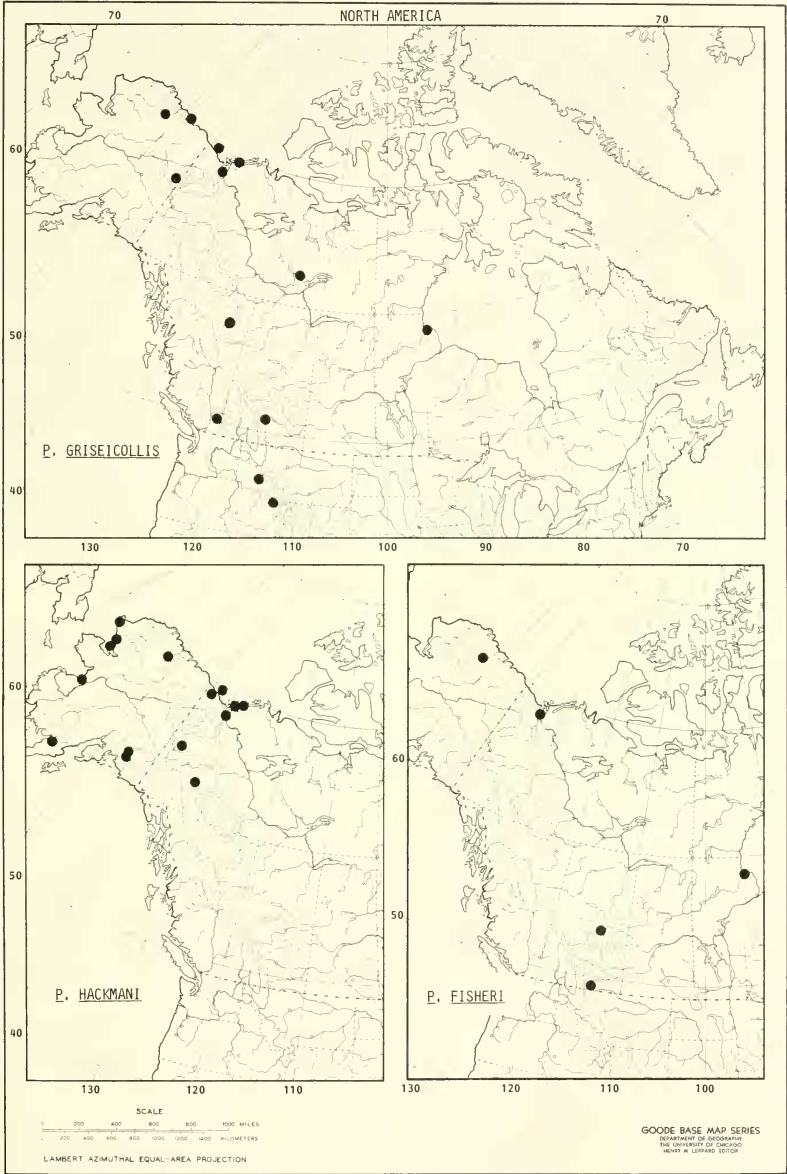


Fig. 8. Collection sites for *Pherbellia griseicollis*, *P. hackmani*, and *P. fisheri*.

ft., July 17, 1962 (1 ♀), P. J. Skitsko; Isabella Pass, Summit Lake, July 9, 1951 (2 ♀), P. J. Skitsko, Aug. 3, 1951 (1 ♀, 1 ♂), Mason-McGillis; King Salmon, Naknek River, July 9, 1952 (1 ♂), J. B. Hartley, July 13, 1952 (1 ♂), Aug. 4, 1952 (1 ♂), W. R. Mason; Kotzebue, June 24, 1951 (1 ♀), R. I. Sailer; Nome, July 9, 1951 (1 ♂), D. P. Williams; Umiat, June 10, 1947 (1 ♀), C. Smith, July 3, 1959 (1 ♀), July 10, 1959 (1 ♂), J. E. H. Martin, July 10, 1959 (1 ♂), July 23, 1959 (1 ♀), Aug. 3, 1959 (2 ♀, 2 ♂), Aug. 7, 1959 (1 ♀), Aug. 12, 1959 (1 ♀), R. Madge; Unalakleet, June 11, 1961 (2 ♀), June 18, 1961 (2 ♂), R. Madge.

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